Interstate Technical Group on Abandoned Underground Mines
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The Iowa Department of Transportation does not have any current project with a potential problem for highway subsidence due to the presence of abandoned underground mines.

The State of Iowa has had coal mining operations (in Pennsylvanian - age rock) dating back to 1840 and as recent as 1994. The coal mine remnants (mines and mine entrances, open pits, etc) extend through the center of the state, on a southeast to the northwest trend, and with the majority in the southern third of the state. Lead mining in Iowa, which was first started by native Americans prior to the European expansion, reached its peak in 1848, in the Dubuque area along the Mississippi, in the northeastern edge of the state. Iowa also has an extensive area subject to karst subsidence, in the northeastern region (about one sixth of the state).

The two most recent potential problems that the Iowa Department of Transportation has addressed were in the coal mine region around the City of Ottumwa and the lead mining area within the City of Dubuque.

The design of the Ottumwa Bypass (US 63) involved considering the potential threat to construction and stability due to the presence of an abandoned coal mine in the vicinity. The Soils Design Section, Office of Design, of the Iowa Department of Transportation worked closely with a geotechnical consultant to coordinate and evaluate both passive and invasive subsurface investigation. The final result was the determination that the route was not threatened by the presence of a nearby abandoned coal mine because of its depth and off-alignment location.

In the northeastern quarter of the state, the Iowa Department of Transportation was concerned with the discovery of several lead mine shafts within or adjacent to the footprint of the northwest arterial for IA 32 through part of the City of Dubuque. Remedial measures used for this project were simple reinforced “caps” over the lead mine entrances in an otherwise competent limestone.

The Iowa Department of Transportation currently uses either resistivity or seismic refraction/reflection, along with exploratory drilling to identify potential underground hazards (abandoned underground mines, sinkholes, etc). The current method for the prevention of roadway subsidence is the use of reinforced pavement.